



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/710,355

07/02/2004

Toru Iwai

SIC-04-010

8415

29863 7590 04/16/2007

DELAND LAW OFFICE

P.O. BOX 69

KLAMATH RIVER, CA 96050-0069

EXAMINER

KING, BRADLEY T

ART UNIT

PAPER NUMBER

3683

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/710,355	Applicant(s) IWAI ET AL.	
	Examiner Bradley T. King	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14, 16-21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5, 7-14, 16-21, and 23-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites "wherein at least a majority of the disk brake rotor apparatus between outermost lateral side surfaces at corresponding same radial and circumferential locations thereof is free of voids". The original disclosure fails to provide antecedent basis for this limitation nor is its meaning clear. While figure 7 has been considered, it appears to be only a single cross-section and does not indicate how the "majority of the disk brake rotor" is structured. Also note that the other figures show holes or slots in the structure. Claims 23-25 recite similar.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3683

Claims 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites "a fastener". It is not clear if this is the same fastener as that of claim 1 or an additional fastener.

Claim Rejections - 35 USC § 103

Claims 1-5, 7-14 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otomo (JP 2679162) in view of Shima et al (JP 56134089).

Re claims 1-4 and 9-11, Otomo teaches a disk brake rotor apparatus capable of use as a bicycle brake rotor comprising: a generally circular first rotor (1) member with a first fixing (5) component structured to mount the first rotor member to a hub mounting member, a generally circular first second rotor (2) member with a first second fixing component (5) structured to mount the first second rotor member to the hub mounting member, wherein the first rotor member is attached to a side of the first second rotor member, and wherein the first second rotor member is formed of a material having greater braking wear resistance than the first rotor member wherein the first rotor member (1) comprises a first fixing component (5) structured to mount the first rotor member to a hub mounting member, a fastener 9 that fastens the hub mounting member (note shown, see page of translation) to the first fixing component on the first rotor member and to the first fixing component on the first second rotor member so that the first rotor member and the first second rotor member are sandwiched between the

Art Unit: 3683

fastener and the hub mounting member and so that the first rotor member and the first second rotor member are pressed towards each other by the fastener and the hub mounting member to prevent delamination of the first rotor member and the first second rotor member from each other; wherein at least a majority of the disk brake rotor apparatus between outermost lateral side surfaces thereof is substantially free of voids; wherein the first second rotor member is formed of a material having greater braking wear resistance than the first rotor member; and wherein the first second rotor member is pressure welded to the first rotor member. Otomo remains silent as to the means of fixing the rotor components. Shima discloses a similar rotor and further teaches pressure welding as a known means of assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize assembly methods such as pressure welding as taught and demonstrated by Shima to assemble the rotor of Otomo as an obvious means of manufacture, thereby ensuring proper durability and performance in the rotor and prevent failure of the brake discs comprised of dissimilar metals.

Claims 5-8 are deemed by the examiner to be product by process claims.

Product by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps.

Regarding claim 9, Otomo and Shima et al remain silent as to the specific dimensions of the rotor elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the dimensions of the rotor

Art Unit: 3683

elements as a matter of routine design and optimization, thereby providing the required strength and weight characteristics for the rotor.

Re claim 14, Otomo as modified does not teach wherein the fasteners are aluminum. It would have been obvious to one of ordinary skill in the art at the time the invention was made since aluminum fasteners are known for their corrosion resistance.

Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otomo and Shima et al, as applied to claim 2 above, and further in view of Seymour (US# 6343675).

Re claims 16-21, Otomo as modified, does not teach wherein the hub mounting member comprises a centrally disposed hub attachment component structured to be mounted to the hub; and a rotor attachment component extending radially outwardly from the hub attachment component and structured to mount to the first fixing component, to the first second fixing component and to the second second fixing component. Seymour teaches a hub mounting member (Figure 3) comprising a centrally disposed hub attachment component structured to be mounted to the hub; and a rotor attachment component extending radially outwardly from the hub attachment component and structured to mount to the first fixing component, to the first second fixing component and to the second second fixing component. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the hub mounting member of Seymour in the apparatus of Otomo as modified in order to facilitate connection of the rotor to the hub.

Response to Arguments

Applicant's arguments filed 01/23/2007 have been fully considered but they are not persuasive.

Regarding the collars of Otomo, it is maintained that the fasteners are capable of pressing the laminate to prevent delamination of the rotor. The collars are the same length as the thickness of the final rotor assembly and therefore would exert force should any separation (increase in thickness) occur. Forces that resist movement of the rotors away from each other are necessarily oriented in a direction forcing the rotors toward each other. It is maintained that the rejections are proper.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3683


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T. King whose telephone number is (571) 272-7117. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTK


ROBERT A. SICONOLFI
PATENT EXAMINER